

What is claimed is:

1. A contact formation method comprising:  
forming a film comprising Si and Ti on a surface of a layer of a Group III nitride semiconductor; and  
heat-treating the film and the semiconductor layer.
2. The contact formation method as set forth in claim 1, wherein the film formation is performed by depositing Si and Ti in this order.
3. The contact formation method as set forth in claim 1 or 2, wherein a heat treatment temperature is in the range of 500° C to 1100° C.
4. A semiconductor device comprising:  
a Group III nitride semiconductor layer into which Si is diffused as an impurity by a heat treatment performed after a film comprising Si and Ti is formed on a surface of the Group III nitride semiconductor layer; and  
an electrode film of  $\text{TiSi}_2$  formed by a reaction between Ti and Si.